National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001

Reply to Attn of: Q-1

Memorandum for the Record

Pursuant to the provisions of the Federal Advisory Committee Act (Public Law 92-463, October 6, 1972) and NASA Policy Directive 1150.21, entitled "Establishment, Operation and Duration of NASA Advisory Committees," the enclosed minutes of the Aerospace Safety Advisory Panel's open meeting conducted on September 25, 2001, at NASA Headquarters via telecon are submitted for the record.

David M. Lengyel
Executive Director
Aerospace Safety Advisory Panel

2 OCT. '01
Date

Richard D. Blomberg
Chair
Aerospace Safety Advisory Panel

20ct. 01
Date

Aerospace Safety Advisory Panel (ASAP)
Open Meeting
September 25, 2001
1:00 p.m. to 2:00 p.m.
NASA Headquarters
Room 6H46

Introduction:
Mr. David Lengyel, Executive Director of the ASAP, opened the meeting with an announcement that this was an open federal advisory committee meeting. The Federal Register Notice announcing the meeting is provided as Enclosure 1. An attendance roster is provided as Enclosure 2. No members of the public were in attendance. The meeting was conducted via telecon with members of the ASAP's Computer Team.

Purpose:
The ASAP was tasked by the NASA Administrator to conduct an assessment of the International Space Station Command & Data Handling (C&DH) redundancy approach and benchmark this approach with best practices used by other organizations that rely on high-availability computer systems to support human safety and protect high-value assets. This assessment was done by the Computer Team in August and September 2001 through a series of fact-finding telecons with: 1) C&DH personnel at the Johnson Space Center, 2) Boeing Commercial Aircraft Division, 777 aircraft avionics office, 3) Nuclear Regulatory Commission (NRC) advanced research office, 4) the Langley Research Center "self-healing computers and SPIDER projects office, 5) Inputs from Department of the Navy FA-18E/F Hornet avionics architecture, and, 6) the Union Pacific Railroad (scheduled for September 27, 2001).

The public meeting conducted via telecon on 25 September was intended to discuss not only the products from the previous fact-finding telecons but also to deliberate the wording of the draft of a letter to be delivered to the Administrator in response to the subject action. The draft discussed is provided as Enclosure 3.

Conclusion:
During the telecon on 25 September, several changes were made to the proposed ASAP letter to clarify a number of points, correct minor errors, and ensure consistency of the message to NASA.

3 Enclosures:
1. Federal Register Notice
2. Attendance Roster
3. Memo from ASAP Chair to NASA Administrator

STATUS OF MEETING: Open.

MATTERS TO BE CONSIDERED:

1. Approval of agenda.
2. Approval of the minutes of the Committee's meeting of June 29, 2001.
3. Consider and act on the Draft Final Property Acquisition and Management Manual.
4. Consider and act upon the Final Report of the Regulations Review Task Force.
5. Staff report on the status of Current Rulemakings: 45 CFR part 1626 (Restrictions on Legal Assistance to Aliens); 45 CFR part 1611 (Eligibility); and 45 CFR 1639 (Welfare Reform).
6. Consider and act on other business.
7. Public comment.

CONTACT PERSON FOR INFORMATION: Victor M. Fortuno, Vice President for Legal Affairs, General Counsel & Corporate Secretary, at (202) 336–8800.

SPECIAL NEEDS: Upon request, meeting notices will be made available in alternate formats to accommodate visual and hearing impairments. Individuals who have a disability and need an accommodation to attend the meeting may notify Elizabeth S. Cushing, at (202) 336–8800.

Dated: August 30, 2001.

Victor M. Fortuno,

Vice President for Legal Affairs, General Counsel and Corporate Secretary.

[FR Doc. 01–22437 Filed 8–31–01; 4:08 pm]

BILLING CODE 7050–01–M

LEGAL SERVICES CORPORATION

Sunshine Act Meeting of the Board of Directors Committee on Provision for the Delivery of Legal Services

TIME AND DATE: The Committee on Provision for the Delivery of Legal Services of the Legal Services Corporation Board of Directors will meet on September 7, 2001. The meeting will begin at 10 a.m. and continue until the Committee concludes its agenda.

LOCATION: Hilton Alexandria Mark Center, 5000 Seminary Road, Alexandria, Virginia.

STATUS OF MEETING: Open.

MATTERS TO BE CONSIDERED:

1. Approval of agenda.
2. Approval of the minutes of the *Committee's* meeting of June 29, 2001.
3. Update by Bob Gross on the Creation of State Justice Communities.
4. Update by Michael Genz and Reginald Haley on the 2002 Competition.
5. Update by Glenn Rawdon and Joyce Raby on the Technology Grants.
6. Update by Pat Hanrahan on LSC's Diversity Activities.
7. Update by John Eidleman on the 2001 Program "Quality" Visits.
8. Report by Anh Tu and Cyndy Schneider on LSC's Visit to Micronesia and Guam.
9. Consider and act on other business.
10. Public comment.

CONTACT PERSON FOR INFORMATION: Victor M. Fortuno, Vice President for Legal Affairs, General Counsel & Secretary of the Corporation, at (202) 336–8800.

SPECIAL NEEDS: Upon request, meeting notices will be made available in alternate formats to accommodate visual and hearing impairments. Individuals who have a disability and need an accommodation to attend the meeting may notify Elizabeth S. Cushing, at (202) 336–8800.

Dated: August 30, 2001.

Victor M. Fortuno,

Vice President for Legal Affairs, General Counsel and Corporate Secretary.

[FR Doc. 01–22438 Filed 8–31–01; 4:08 pm]

BILLING CODE 7050–01–M

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[Notice (01–106)]

Aerospace Safety Advisory Panel (ASAP); Meeting

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of meeting.

SUMMARY: In accordance with the Federal Advisory Committee Act, Public Law 92–463, as amended, the National Aeronautics and Space Administration announces a forthcoming meeting of the Aerospace Safety Advisory Panel.

DATES: Tuesday, September 25, 2001, 1 p.m. to 2 p.m. Eastern Daylight Time.

ADDRESSES: National Aeronautics and Space Administration Headquarters, 300 E Street, SW, Room 5W63, Washington, DC 20546.

FOR FURTHER INFORMATION CONTACT: Mr. David M. Lengyel, Aerospace Safety Advisory Panel Executive Director, Code Q–1, National Aeronautics and Space Administration, Washington, DC 20546, 202/358–0391, if you plan to attend.

SUPPLEMENTARY INFORMATION: This meeting will be conducted via telecon with Panel members and consultants. This meeting will be open to the public up to the seating capacity of the room (12). The agenda for the meeting is as follows: To discuss the Aerospace Safety Advisory Panel response to a National Aeronautics and Space Administration action to review the computer system redundancy approach for the International Space Station and compare it with the best practices used by other organizations that provide high availability computer systems to support human safety and protect high-value assets.

It is imperative that the meeting be held on this date to accommodate the scheduling priorities of the key participants. Visitors will be requested to sign a visitors register.

Beth M. McCormick,

Advisory Committee Management Officer, National Aeronautics and Space Administration.

[FR Doc. 01–22194 Filed 9–4–01; 8:45 am]

BILLING CODE 7510–01–P

NATIONAL CREDIT UNION ADMINISTRATION

Agency Information Collection Activities: Submission to OMB for Review; Comment Request

AGENCY: National Credit Union Administration (NCUA).

ACTION: Request for comment.

SUMMARY: The NCUA is submitting the following new information collection to the Office of Management and Budget (OMB) for review and clearance under the Paperwork Reduction Act of 1995 (Pub. L. 104–13, 44 U.S.C.Chapter 35). This information collection is published to obtain comments from the public.

DATES: Comments will be accepted until November 5, 2001.

ADDRESSES: Interested parties are invited to submit written comments to NCUA Clearance Officer or OMB Reviewer listed below:

Clearance Officer: Mr. C. Keith Morton (703) 518–6411, National Credit Union Administration, 1775 Duke Street, Alexandria, Virginia 22314–3428, Fax No. 703–518–6433, E-mail: ckmorton@ncua.gov.

OMB Reviewer: Alexander T. Hunt (202) 395–7860, Office of Management and Budget, Room 10226, New Executive Office Building, Washington, DC 20503.

FOR FURTHER INFORMATION CONTACT: Copies of the information collection requests, with applicable supporting documentation, may be obtained by calling theNCUA Clearance Officer, C. Keith Morton, (703) 518–6411.It is also

Enclosure 1

Attendance Roster

From the ASAP Computer Team:
Shirley McCarty, Team Lead
Wanda Austin
Richard Blomberg, Panel Chairman
Rich Bruckman
George Gleghorn
Nancy Leveson
Art Zygielbaum

From Code Q-1:
Q-1/David Lengyel, Executive Director

From NASA Headquarters Office of Space Flight:
M-2/Stan Fishkind

From the Public:
There were no members of the public in attendance.

Enclosure 2

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001

Reply to Attn of: Q-1

October 2, 2001

The Honorable Daniel S. Goldin
Administrator
National Aeronautics and Space Administration
Washington, DC 20546

Dear Mr. Goldin:

On June 27, 2001, you asked the Aerospace Safety Advisory Panel to make a preliminary assessment of NASA's redundancy approach for the International Space Station (ISS) Command and Data Handling (C&DH) computer systems to determine if it is consistent with the best practices used by other organizations that rely on high-availability computer systems to support human safety and to protect high-value assets. This letter is written in response to your request.

It is our conclusion that the ISS does follow an approach consistent with current best practice in assuring the availability of safety-critical computing functions. This is done through two mechanisms. The first is redundancy of hardware and software, and the second is functional backup with dissimilar systems. Both the U.S. and Russian elements have multiply redundant hardware and software for their implementations. There remains, however, some probability that all of the computers for a specific function on either the Russian side or the U.S. side will fail in close time proximity–as occurred in April this year on the U.S. side. But even in this scenario, the Russian and U.S. computers provide functional backup for each other to further guard against the loss of safety-critical functions. This, we believe, is a reasonable approach to protecting vital operations on the ISS.

In coming to this conclusion, our computer team has held discussions with senior executives and technical experts at several organizations who have developed systems with similar demands for human safety and protection of valuable assets. We found that NASA's ISS computer system redundancy philosophy and implementation are consistent with those used for high-performance military aircraft, commercial airliners, and nuclear power facilities. Even though the missions differ significantly, the need for a rapid response to failures to ensure safety is common to all these systems.

The ISS's loosely-coupled, multi-tiered architecture is similar to that of most modern military aircraft. These aircraft provide fail-safe operational performance

after two similar flight control system failures by transitioning among three identical, redundant systems or "lanes": the term used to describe a set of hardware (computers, buses, mass storage, and other devices) and software that perform a specific function. Fail-safe performance after the third such failure results in transitioning to a dissimilar electrical system or hybrid electrical plus mechanical or hydraulic backup.

Of the commercial aircraft systems we reviewed, Boeing's 777 is perhaps the most recently designed. It employs redundant lanes and proprietary software to ensure that time-critical vehicle operations are performed with precision. Boeing has also introduced some new techniques to avoid common-mode failures.

The Nuclear Regulatory Commission provided a perspective on their 4-tier systems that have stringent requirements for diverse functional redundancy to mitigate common-mode failures.

Although there are differences in implementation, the basic approaches used for all these missions reflect the redundancy philosophy used for computer systems onboard the ISS.

In summary, our computer team has concluded that the current approach to redundancy for the ISS C&DH system is acceptable, and that the current system can be operated safely. We recommend that the ISS C&DH design be reviewed periodically with a view to maintaining redundancy practice in line with the evolving state-of-the-art.

Sincerely,

Richard D. Blomberg
Chair
Aerospace Safety Advisory Panel

cc:
M/Mr. Rothenberg
Q/Mr. Gregory
JSC/OA/Mr. Holloway